



Brunsing Associates, Inc.

August 22, 2005

Project No. 383

Mr. Dale Radford
Sonoma County Department of Health Services
475 Aviation Blvd, Suite 220
Santa Rosa, California 95403

Groundwater Monitoring Report
May 2005
100 Brown Street
Sebastopol, California

Dear Mr. Radford:

This report presents the results of groundwater monitoring performed at 100 Brown Street, Sebastopol, California (Plate 1) by Brunsing Associates, Inc. (BAI). The groundwater monitoring field activities were performed on May 10, 2005. This report was prepared to fulfill the monitoring requirements of the Sonoma County Department of Health Services-Environmental Health Division (SCDHS-EHD).

Site History

In December 1990, a 1,000-gallon underground storage tank (UST) used for gasoline was partially excavated from the former tire service facility. The tank was observed to extend underneath the onsite building and was therefore left in place and backfilled. Soil and groundwater samples were collected to evaluate if contamination resulting from the UST existed, by drilling soil boring B-1 and installing monitoring well MW-1 in February 1992 and August 1994, respectively.

In May 1995, four 1,000-gallon USTs were discovered at the site. Three of the tanks were subsequently rinsed, purged, and removed. The fourth tank was also observed to extend beneath the onsite building. After rinsing and purging, the two tanks that partially extend under the building, were filled with cement slurry and left in place.

In November 1996, BAI supervised the drilling of four Hydropunch borings (HP-1 through HP-4) to depths of 25 feet below ground surface (bgs), to further

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evaluate the extent of soil and groundwater contamination. The results of the site investigation were presented in BAI's report, "Soil and Groundwater Investigation, Wyatt Tire Service", dated December 23, 1996. The SCDHS-EHD stated that the results of the site investigation indicated that active remediation would be necessary, in correspondence dated January 7, 1997. In August 1998, BAI supervised the installation of two additional monitoring wells, MW-2 and MW-3, and the installation of five shallow borings, B-2 through B-6. The results of the additional site investigation were presented in BAI's report, "Soil & Groundwater Investigation and Soil Vapor Extraction Pilot Test Report", dated January 14, 1998.

A subsequent Feasibility Study for the site dated January 19, 1998 recommended soil vapor extraction (SVE) as the most cost-effective remedial action for the site. A Corrective Action Plan was submitted to the regulatory agencies on May 29, 1998 by BAI, which provided the treatment system design, in addition to a complete site history, and discussion of site geology and analytical data.

The first remedial treatment method used at the site was SVE via a thermal oxidizing system. The system was initially started up on April 14, 2000 but was effectively inactive due to mechanical difficulties until February 2001. The remedial system was then functional through May 29, 2001. The system was subsequently shut down because the volatile organic compounds (VOCs) concentrations were not high enough in the influent air stream to sustain operation of the thermal oxidizer, as detailed in BAI's letter to the Bay Area Air Quality Management District (BAAQMD), dated October 24, 2001.

BAI recommended replacement of the thermal oxidation unit with a carbon treatment system in an October 24, 2001 letter; the replacement system was approved by the SCDHS-EHD in their letter dated November 8, 2001. The remedial replacement system consists of a smaller regenerative blower and a carbon treatment system. The remediation system was re-started on August 8, 2002 and initially included two 400-pound carbon canisters. As discussed in BAI's letter to the BAAQMD on September 12, 2002, the carbon capacity was increased to the current system, containing a 2,000 pound-carbon vessel and a 400-pound carbon vessel. The treatment system compound is located at the southern portion of the property adjacent to the building. BAI's report titled "Remediation Progress Report, August 2004 through December 2004", dated February 7, 2005 provides the most recent information of the remedial operations at the site.



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In accordance with BAI's report, "Workplan Addendum to Deepen Well MW-1," dated September 18, 2002 and approved by the SCDHS-EHD in their letter dated September 27, 2002, BAI drilled and installed one 38-foot deep well, MW-4, on February 19, 2003. Soil samples collected from the borehole in well MW-4 contained petroleum hydrocarbons predominately at 10-feet below ground surface. The results of the well installation and January 2003 groundwater monitoring are presented in BAI's report "Well Installation and Groundwater Monitoring Report", dated April 18, 2003.

BAI's "Confirmation Soil Sampling Workplan" dated July 8, 2004 proposed that due to the low influent vapor and the dropping levels of groundwater at the site that soil confirmation drilling be performed to evaluate the effectiveness of the remediation system. The July 8, 2004 workplan also recommended sampling sparge well SP-1 instead of installation of an additional monitoring well at the site.

Drilling of five exploratory borings (CB-1 through CB-5) occurred on September 24, 2004, as proposed in BAI's July 8, 2004 workplan. The highest residual soil concentrations reported during this investigation were found in the soil samples collected from the intermediate clay layer, a five-foot thick layer of clayey material starting at approximately 7 to 10 feet bgs. The results of the site investigation were presented in BAI's report, "Confirmation Soil Sampling Report", dated November 22, 2004.

Plate 2 shows the locations of the tanks, soil borings and monitoring wells. Table 1 and Table 2 present the groundwater elevation data and groundwater analytical results, respectively. Table 3 presents the well construction details.

Well Survey

The elevations of the top of the PVC casing in all monitoring wells were surveyed relative to mean sea level by Ray Carlson, Inc., a California-licensed land surveyor, on March 8, 2005. The surveyor's report is contained in Appendix A.

Quarterly Groundwater Monitoring

Depths to groundwater were measured on May 10, 2005 in wells MW-1, MW-2, MW-3, MW-4, and B-4 through B-7. Wells SP-1 and B-3 were not accessible.



Groundwater samples were collected from wells MW-4, B-5, B-6, B-7, and B-8 on May 10, 2005. Wells MW-1, MW-2, MW-3, SP-1, B-3, and B-4 were not sampled because the wells were dry or inaccessible during field activities. The groundwater sampling protocol and field reports are included in Appendix B. BACE Analytical and Field Services analyzed the groundwater samples for TPH as gasoline, BTEX, petroleum oxygenates and lead scavengers, by EPA Test Method 8260. The groundwater analytical report for the samples collected on May 10, 2005 is presented in Appendix C.

Results

Cumulative depths to groundwater and calculated groundwater elevations are presented in Table 1. The deep zone groundwater flow direction was not calculated because wells MW-1, MW-2, and MW-3 were dry. The calculated gradient and flow direction for the perched water-bearing, zone using data from wells B-5, B-6, and B-8 was 0.059 foot per foot and to the east.

TPH as gasoline was reported in the groundwater samples collected from wells B-5, B-6, B-7, B-8, and MW-4 at concentrations of 32 milligrams per liter (mg/l), 120 mg/l, 0.23 mg/l, 13 mg/l, and 0.085 mg/l, respectively. Benzene concentrations of 1,070 micrograms per liter ($\mu\text{g/l}$), 312 $\mu\text{g/l}$, and 176 $\mu\text{g/l}$ were reportedly contained in the groundwater samples collected from wells B-5, B-6, and B-8, respectively. Methyl tert-butyl ether (MTBE) concentrations of 12,600 $\mu\text{g/l}$ and 70.2 $\mu\text{g/l}$, were reported in the groundwater samples collected from wells B-5, and B-7, respectively. Cumulative groundwater analytical results are presented in Table 2.

Conclusions and Recommendations

May 2005 was the second time that shallow vapor extraction wells, B-5, B-6, B-7 and B-8 were sampled. All of the shallow wells that were sampled reportedly contained elevated concentrations of petroleum hydrocarbon constituents. TPH as gasoline concentrations in the samples from wells B-5 and B-6, MTBE concentrations in the samples from wells B-5 and B-7, and ethylbenzene and benzene concentrations in well B-5 sample increased relative to the January 2005 sample results. All other petroleum hydrocarbon concentrations reported in the well B-5, B-6, B-7, and B-8 samples, decreased. The TPH as gasoline, toluene, ethylbenzene, and xylenes concentrations reported in the B-6 sample, and the MTBE concentration reported in the B-5 sample are the highest concentrations



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reported to date. Well MW-4 contained detectable TPH as gasoline, ethylbenzene, and xylenes, which were slightly higher than the concentrations reported in January 2005.

Due to the high concentrations of MTBE reported in the groundwater sample from well B-5, BAI proposes to perform a review of the SCDHS-EHD files to look for potential up-gradient sources of MTBE. BAI is currently preparing a Feasibility Study Addendum to address the residual shallow and intermediate contamination. The next groundwater monitoring event is scheduled for August 2005. BAI recommends that the shallow vapor extraction wells be sampled if feasible.

If you have any questions regarding this report, please contact Diana Dickerson or Bill Coset at (707) 838-3027.

Sincerely,



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Mr. Michael Gest

Attachments:

- Table 1. Groundwater Elevation Data
 - Table 2. Groundwater Analytical Results
 - Table 3. Well Construction Details
 - Plate 1. Site Vicinity Map
 - Plate 2. Site Map
 - Plate 3. Groundwater Elevation Map, 5/10/05
- Appendix A. Surveyor's Report
Appendix B. Monitoring Well Sampling Protocol and Field Reports
Appendix C. Laboratory Report



TABLES



Table 1. Groundwater Elevation Data

100 Brown Street
Sebastopol, California

Well ID	Date	Top of Casing Elevation (ft., MSL)	Depth to Water (feet)	Groundwater Elevation (ft., MSL)	Groundwater Flow Direction and Gradient
MW-1	29-Aug-97	76.90	22.98	53.92	South Gradient = 0.002 ft./ft.
MW-2	29-Aug-97	76.05	22.13	53.92	
MW-3	29-Aug-97	76.61	22.63	53.98	
MW-1	3-Nov-97	76.90	24.95	51.95	Southeast Gradient = 0.007 ft./ft.
MW-2	3-Nov-97	76.05	24.38	51.67	
MW-3	3-Nov-97	76.61	24.59	52.02	
MW-1	15-Jan-98	76.90	22.77	54.13	South Gradient = 0.002 ft./ft.
MW-2	15-Jan-98	76.05	21.91	54.14	
MW-3	15-Jan-98	76.61	22.44	54.17	
MW-1	18-Mar-98	76.90	18.99	57.91	South Gradient = 0.002 ft./ft.
MW-2	18-Mar-98	76.05	18.13	57.92	
MW-3	18-Mar-98	76.61	18.65	57.96	
MW-1	13-Apr-98	76.90	18.30	58.60	South Gradient = 0.003 ft./ft.
MW-2	13-Apr-98	76.05	17.43	58.62	
MW-3	13-Apr-98	76.61	17.95	58.66	
MW-1	4-May-98	76.90	17.95	58.95	South Gradient = 0.002 ft./ft.
MW-2	4-May-98	76.05	17.09	58.96	
MW-3	4-May-98	76.61	17.60	59.01	
MW-1	16-Jun-98	76.90	17.45	59.45	South Gradient = 0.002 ft./ft.
MW-2	16-Jun-98	76.05	16.61	59.44	
MW-3	16-Jun-98	76.61	17.11	59.50	
MW-1	24-Jul-98	76.90	18.29	58.61	South Southeast Gradient = 0.001 ft./ft.
MW-2	24-Jul-98	76.05	17.46	58.59	
MW-3	24-Jul-98	76.61	17.97	58.64	
MW-1	5-Aug-98	76.90	18.55	58.35	South Gradient = 0.001 ft./ft.
MW-2	5-Aug-98	76.05	17.71	58.34	
MW-3	5-Aug-98	76.61	18.23	58.38	
MW-1	9-Sep-98	76.90	19.45	57.45	South Gradient = 0.002 ft./ft.
MW-2	9-Sep-98	76.05	18.62	57.43	
MW-3	9-Sep-98	76.61	19.11	57.50	
MW-1	8-Oct-98	76.90	20.02	56.88	South Gradient = 0.002 ft./ft.
MW-2	8-Oct-98	76.05	19.17	56.88	
MW-3	8-Oct-98	76.61	19.68	56.93	



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Well ID	Date	Top of Casing Elevation (ft., MSL)	Depth to Water (feet)	Groundwater Elevation (ft., MSL)	Groundwater Flow Direction and Gradient
MW-1	3-Nov-98	76.90	20.18	56.72	South Gradient = 0.001 ft./ft.
MW-2	3-Nov-98	76.05	19.33	56.72	
MW-3	3-Nov-98	76.61	19.86	56.75	
MW-1	16-Apr-99	76.90	15.73	61.17	South Gradient = 0.002 ft./ft.
MW-2	16-Apr-99	76.05	14.87	61.18	
MW-3	16-Apr-99	76.61	15.40	61.21	
MW-1	13-Jul-99	76.90	19.13	57.77	South Southeast Gradient = 0.002 ft./ft.
MW-2	13-Jul-99	76.05	18.31	57.74	
MW-3	13-Jul-99	76.61	18.80	57.81	
MW-1	29-Oct-99	77.27	21.31	55.96	North Northwest Gradient = 0.015 ft./ft.
MW-2	29-Oct-99	76.05	20.47	55.58	
MW-3	29-Oct-99	75.94	20.33	55.61	
MW-1	5-Jan-00	77.27	20.98	56.29	North Gradient = 0.022 ft./ft.
MW-2	5-Jan-00	76.05	20.02	56.03	
MW-3	5-Jan-00	75.94	20.17	55.77	
MW-1	22-May-00	77.27	19.96	57.31	South Gradient = 0.002 ft./ft.
MW-2	22-May-00	76.05	18.73	57.32	
MW-3	22-May-00	75.94	18.58	57.36	
MW-1	7-Aug-00	77.27	22.06	55.21	North northwest Gradient = 0.006 ft./ft.
MW-2	7-Aug-00	76.05	20.68	55.37	
MW-3	7-Aug-00	75.94	20.84	55.10	
MW-1	8-Nov-00	77.27	24.00	53.27	South Gradient = 0.005 ft./ft.
MW-2	8-Nov-00	76.05	22.77	53.28	
MW-3	8-Nov-00	75.94	22.61	53.33	
MW-1	19-Feb-01	77.27	23.10	54.17	South Gradient = 0.006 ft./ft.
MW-2	19-Feb-01	76.05	21.89	54.16	
MW-3	19-Feb-01	75.94	21.62	54.32	
MW-1	8-May-01	77.27	22.28	54.99	South Southeast Gradient = 0.004 ft./ft.
MW-2	8-May-01	76.05	21.11	54.94	
MW-3	8-May-01	75.94	20.86	55.08	



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Sebastopol, California

Well ID	Date	Top of Casing Elevation (ft., MSL)	Depth to Water (feet)	Groundwater Elevation (ft., MSL)	Groundwater Flow Direction and Gradient
MW-1	27-Aug-01	77.27	dry	dry	--
MW-2	27-Aug-01	76.05	23.77	52.28	
MW-3	27-Aug-01	75.94	23.58	52.36	
MW-1	6-Dec-01	77.27	dry	dry	--
MW-2	6-Dec-01	76.05	25.23	50.82	
MW-3	6-Dec-01	75.94	25.09	50.85	
MW-1	15-Mar-02	77.27	dry	dry	--
MW-2	15-Mar-02	76.05	23.89	52.16	
MW-3	15-Mar-02	75.94	23.76	52.18	
MW-1	26-Apr-02	77.27	dry	dry	
MW-1	25-Jun-02	77.27	dry	dry	--
MW-2	25-Jun-02	76.05	25.10	50.95	
MW-3	25-Jun-02	75.94	24.96	50.98	
MW-1	12-Sep-02	77.27	dry	dry	--
MW-2	12-Sep-02	76.05	26.26	49.79	
MW-3	12-Sep-02	75.94	26.11	49.83	
MW-1	3-Oct-02	77.27	dry	dry	--
MW-2	3-Oct-02	76.05	26.60	49.45	
MW-3	3-Oct-02	75.94	26.43	49.51	
MW-1	28-Jan-03	77.27	dry	dry	--
MW-2	28-Jan-03	76.05	26.13	49.92	
MW-3	28-Jan-03	75.94	26.01	49.93	
MW-4	25-Feb-03	76.67	26.52	50.15	
MW-1	17-Apr-03	77.27	dry	dry	South Southeast Gradient = 0.006 ft./ft.
MW-2	17-Apr-03	76.05	25.66	50.39	
MW-3	17-Apr-03	75.94	25.38	50.56	
MW-4	17-Apr-03	76.67	26.31	50.36	
MW-1	28-Apr-03	77.27	dry	dry	South Southeast Gradient = 0.001 ft./ft.
MW-2	28-Apr-03	76.05	25.47	50.58	
MW-3	28-Apr-03	75.94	25.34	50.60	
MW-4	28-Apr-03	76.67	26.09	50.58	



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Well ID	Date	Top of Casing Elevation (ft., MSL)	Depth to Water (feet)	Groundwater Elevation (ft., MSL)	Groundwater Flow Direction and Gradient
MW-1	7-Jul-03	77.27	dry	dry	South Southeast Gradient = 0.002 ft./ft.
MW-2	7-Jul-03	76.05	26.00	50.05	
MW-3	7-Jul-03	75.94	25.82	50.12	
MW-4	7-Jul-03	76.67	26.62	50.05	
MW-1	17-Oct-03	77.27	dry	dry	South Southeast Gradient = 0.003 ft./ft.
MW-2	17-Oct-03	76.05	28.23	47.82	
MW-3	17-Oct-03	75.94	27.94	48.00	
MW-4	17-Oct-03	76.67	28.84	47.83	
MW-1	16-Jan-04	77.27	dry	dry	--
MW-2	16-Jan-04	76.05	dry	dry	
MW-3	16-Jan-04	75.94	dry	dry	
MW-4	16-Jan-04	76.67	29.11	47.56	
MW-1	4-Apr-04	77.27	dry	dry	--
MW-2	4-Apr-04	76.05	dry	dry	
MW-3	4-Apr-04	75.94	dry	dry	
MW-4	4-Apr-04	76.67	28.16	48.51	
MW-1	12-Jul-04	77.27	NA	NA	--
MW-2	12-Jul-04	76.05	dry	dry	
MW-3	12-Jul-04	75.94	28.15	47.79	
MW-4	12-Jul-04	76.67	29.93	46.74	
SP-1	12-Jul-04	NS	30.09	NA	
MW-1	18-Oct-04	77.27	NA	NA	--
MW-2	18-Oct-04	76.05	dry	dry	
MW-3	18-Oct-04	75.94	dry	dry	
MW-4	18-Oct-04	76.67	31.50	45.17	
SP-1	18-Oct-04	NS	31.75	NA	



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Well ID	Date	Top of Casing Elevation (ft., MSL)	Depth to Water (feet)	Groundwater Elevation (ft., MSL)	Groundwater Flow Direction and Gradient
MW-1	3-Jan-05	77.27	dry	dry	
MW-2	3-Jan-05	76.05	dry	dry	
MW-3	3-Jan-05	75.94	dry	dry	
MW-4	3-Jan-05	76.67	31.87	44.80	
SP-1	3-Jan-05	NS	32.11	NA	
B-3	3-Jan-05	NS	5.33	NA	
B-4	3-Jan-05	NS	dry	dry	
B-5	3-Jan-05	NS	4.69	NA	
B-6	3-Jan-05	NS	4.91	NA	
B-7	3-Jan-05	NS	5.30	NA	
B-8	3-Jan-05	NS	3.89	NA	
MW-1	10-May-05	79.78	dry	dry	
MW-2	10-May-05	78.57	dry	dry	
MW-3	10-May-05	78.45	dry	dry	
MW-4	10-May-05	79.18	30.31	48.87	
SP-1	10-May-05	79.66		NA	
B-3	10-May-05	79.33		NA	
B-4	10-May-05	79.08	dry	dry	
B-5	10-May-05	78.19	4.12	74.07	
B-6	10-May-05	78.96	4.62	74.34	
B-7	10-May-05	78.40	2.03	76.37	
B-8	10-May-05	78.85	2.44	76.41	

Wells resurveyed by Phelps and Associates on November 8, 2000 after well heads modified for treatment system. Well MW-4 surveyed on April 9, 2003 by Ray Carlson and Associates. All wells resurveyed by Ray Carlson and Associates on March 8, 2005.

MSL = Mean sea level

NS = not surveyed

-- = Not calculated because no water present in at least one well

NA = inaccessible or not applicable



Table 2. Groundwater Analytical Results

100 Brown Street
Sebastopol, California

Well Number	Sampling Date	TPH as Gasoline (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Depth to Water (Feet TOC)
MW-1	2-Sep-94	4.8	440	1,100	200	1,100	NR	23.99
MW-1	1-Feb-95	3.8	150	120	37	840	NR	21.91
MW-1	3-May-95	26	2,000	3,800	660	6,500	NR	19.53
MW-1	29-Aug-97	ND	ND	1.2	ND	ND	16	22.98
MW-1	18-Mar-98	13	440	83	12	3,700	240	18.99
MW-1	16-Jun-98	8.4	510	340	110	1,800	300	17.45
MW-1	9-Sep-98	1.9	150	78	70	350	230	19.45
MW-1	16-Apr-99	20	750	170	310	5,500	370	15.73
MW-1	13-Jul-99	7.7	220	260	280	1,600	160	19.13
MW-1	29-Oct-99	NS	NS	NS	NS	NS	NS	21.31
MW-1	5-Jan-00	0.42	46	2.9	32	1.5	50	20.98
MW-1	22-May-00	0.27	0.6	1.7	ND	ND	260	19.96
MW-1	7-Aug-00	1.1	42	6.5	28	3.6	192 ^B	22.06
MW-1	8-Nov-00	ND	ND	ND	ND	ND	<2.0 ^A	24.00
MW-1	19-Feb-01	ND	ND	ND	ND	ND	23 ^C	23.10
MW-1	8-May-01	ND	ND	1.1	ND	2.2	ND ^A	22.28
MW-2	29-Aug-97	ND	ND	ND	ND	ND	30	22.13
MW-2	18-Mar-98	ND	ND	ND	ND	4.0	600	18.13
MW-2	16-Jun-98	ND	ND	ND	ND	ND	470	16.61
MW-2	9-Sep-98	1.3	ND	2.0	ND	2.2	1,200	18.62
MW-2	16-Apr-99	2.1	ND	3.3	ND	ND	2,000	14.87
MW-2	13-Jul-99	0.41	ND	12	ND	0.68	300	18.31
MW-2	29-Oct-99	1.7	13	29	18	50	19.1 ^A	20.47
MW-2	5-Jan-00	ND	ND	ND	ND	ND	60	20.02
MW-2	22-May-00	ND	ND	ND	ND	ND	180	18.73
MW-2	7-Aug-00	0.13	ND	14	ND	ND	30.2 ^A	20.68
MW-2	8-Nov-00	ND	ND	ND	ND	ND	5.5 ^A	22.77
MW-2	19-Feb-01	ND	ND	ND	ND	ND	1.1 ^A	21.89
MW-2	8-May-01	ND	ND	ND	ND	ND	ND ^A	21.11
MW-2	27-Aug-01	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 5.00 ^A	23.77
MW-2	6-Dec-01	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	25.23
MW-2	15-Mar-02	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	23.89
MW-2	25-Jun-02	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	1.53 ^A	25.10
MW-2	3-Oct-02	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	26.60
MW-2	28-Jan-03	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	26.13
MW-2	28-Apr-03	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	25.47
MW-2	7-Jul-03	< 0.050	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0 ^A	26.00



Table 2. Groundwater Analytical Results

100 Brown Street
Sebastopol, California

Well Number	Sampling Date	TPH as Gasoline (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Depth to Water (Feet TOC)
MW-3	29-Aug-97	3.6	46	180	3.3	360	47	22.63
MW-3	18-Mar-98	22	500	690	39	4,200	1,400	18.65
MW-3	16-Jun-98	19	690	2,700	54	3,500	1,500	17.11
MW-3	9-Sep-98	7.4	42	11	0.7	280	620	19.11
MW-3	16-Apr-99	6.7	51	17	40	500	530	15.40
MW-3	13-Jul-99	8.2	330	23	140	270	1,700	18.80
MW-3	29-Oct-99	ND	ND	ND	ND	ND	70.2 ^A	20.33
MW-3	5-Jan-00	1.1	2.8	30	5.8	27	31	20.17
MW-3	22-May-00	3.5	83	26	57	132	460	18.58
MW-3	7-Aug-00	ND	ND	5.6	ND	ND	10.4 ^A	20.84
MW-3	8-Nov-00	ND	ND	ND	ND	ND	2.5 ^A	22.61
MW-3	19-Feb-01	ND	ND	2.1	ND	3.1	<1.0 ^A	21.62
MW-3	8-May-01	ND	ND	7.4	ND	ND	ND ^D	20.86
MW-3	27-Aug-01	2.7	<1.25	<1.25	2.20	4.82	<12.5 ^A	23.58
MW-3	6-Dec-01	5.4	<2.5	<2.5	<2.5	<2.5	<5.0 ^A	25.09
MW-3	15-Mar-02	4.4	<2.5	<2.5	<2.5	<2.5	7.00 ^A	23.76
MW-3	25-Jun-02	<0.050	<0.50	<0.50	<0.50	<0.50	1.72 ^A	24.96
MW-3	3-Oct-02	11	<10	<10	<10	<10	<20 ^A	26.43
MW-3	28-Jan-03	4.0	<10	<10	<10	11.6	<20 ^A	26.01
MW-3	28-Apr-03	4.5	<10	<10	<10	<10	<20 ^A	25.34
MW-3	7-Jul-03	6.4	<10	<10	<10	<10	<20 ^A	25.82
MW-4	25-Feb-03	<0.05	<0.50	<0.50	<0.50	4.75	<1.0 ^A	26.52
MW-4	28-Apr-03	<0.05	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	26.09
MW-4	7-Jul-03	<0.05	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	26.62
MW-4	17-Oct-03	<0.050	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	28.84
MW-4	16-Jan-04	<0.050	<0.30	<0.30	<0.50	<0.50	<0.50 ^A	29.11
MW-4	4-Apr-04	<0.050	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	28.16
MW-4	12-Jul-04	<0.050	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	29.93
MW-4	18-Oct-04	<0.050	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	31.50
MW-4	3-Jan-05	0.34	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	31.87
MW-4	10-May-05	0.85	<0.50	<0.50	1.10	6.07	<1.0 ^A	30.31



Table 2. Groundwater Analytical Results

100 Brown Street
Sebastopol, California

Well Number	Sampling Date	TPH as Gasoline (mg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Xylenes (µg/l)	MTBE (µg/l)	Depth to Water (Feet TOC)
SP-1	27-May-04	0.38	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	29.50
SP-1	12-Jul-04	0.68	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	30.09
SP-1	18-Oct-04	0.48	<0.50	<0.50	<0.50	<0.50	<1.0 ^A	31.75
SP-1	4-Jan-05	1.7	<0.50	6.09	122	67.9	<1.0 ^A	32.11
B-3	4-Jan-05	0.10	<0.50	<0.50	<0.50	<0.50	69.7 ^A	5.33
B-5	3-Jan-05	20	344	635	200	1,130	5,870 ^A	4.69
B-5	10-May-05	32	1070	550	703	3,340	12,600 ^D	4.12
B-6	3-Jan-05	78	807	15,700	7,000	38,500	<250 ^A	4.91
B-6	10-May-05	120	312	4,775	6,400	34,400	<250 ^A	4.62
B-7	4-Jan-05	1.0	1.37	22.3	14.1	81.5	27 ^A	5.30
B-7	10-May-05	0.23	<0.50	<0.50	0.67	3.34	70.2 ^A	2.03
B-8	4-Jan-05	38	419	8,930	944	13,400	<250 ^A	3.89
B-8	10-May-05	13	176	2,160	782	4,030	<250 ^A	2.44
Method Reporting Limit		0.05 mg/l	0.5 µg/l	0.5 µg/l	0.5 µg/l	0.5 µg/l	5.0 µg/l	

ND= Not detected at the laboratory reporting limit.

NR= Analysis not requested.

NS= Not sampled.

mg/l = milligrams per liter

µg/l = micrograms per liter

TOC = Below top of Casing (Monitoring Well).

< 1.25 = analyte is less than the method reporting limit specified.

^A = Oxygenates and lead scavengers analyzed by EPA Test Method 8260B.

Only those compounds detected are listed.

^B = Oxygenates and lead scavengers analyzed by EPA Test Method 8260B. Tert-butyl alcohol reported at 227 µg/l and 1,2-dichloroethane reported at 13.4 µg/l.

^C = Oxygenates and lead scavengers analyzed by EPA Test Method 8260B. Tert-butyl alcohol reported at 300 µg/l.

^D = Oxygenates and lead scavengers analyzed by EPA Test Method 8260B. 1,2-dichloroethane reported at 98.4 µg/l.





Table 3. Well Construction Details
100 Brown Street
Sebastopol, California

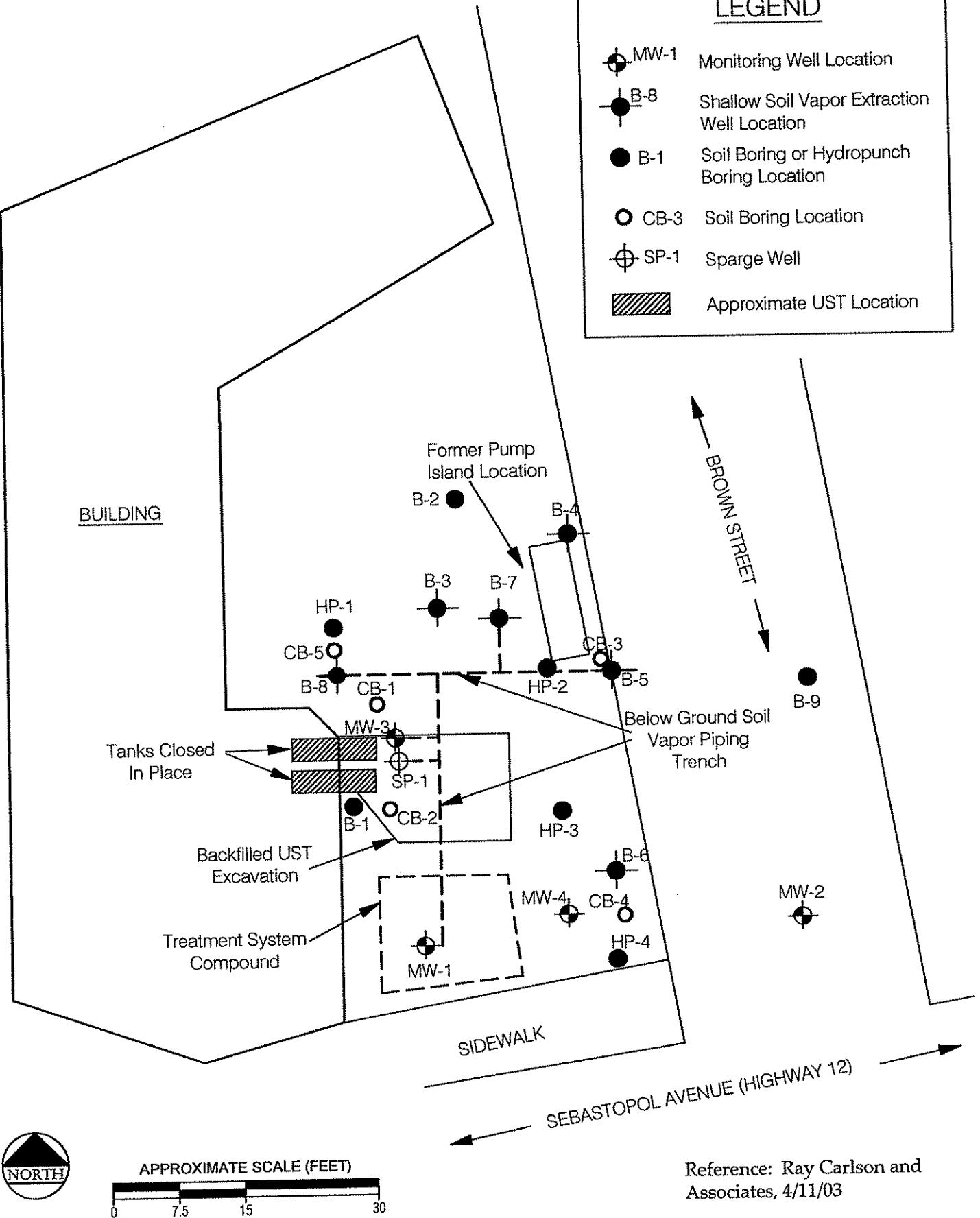
Well Number	Date Installed	Installed By	Borehole Diameter (inches)	Total Borehole Depth (feet)	Screened Interval (feet)	Total Well Depth (feet)	Casing Diameter (inches)	Screen Slot Size (inches)	PVC Casing Elevation * (MSL)	Existing or Date Abandoned
MW-1	04-Aug-94	BAI	8	25	10 to 25	25	2	0.020	79.78	Existing
MW-2	26-Aug-97	BAI	8	30	15 to 30	30	2	0.020	78.57	Existing
MW-3	27-Aug-97	BAI	8	30	13 to 30	30	2	0.020	78.45	Existing
MW-4	19-Feb-03	BAI	8	38	28 to 38	38	2	0.020	79.18	Existing
B-3	27-Aug-97	BAI	4	10	4 to 9	9	2	0.020	79.33	Existing
B-4	26-Aug-97	BAI	4	10	4 to 9	9	2	0.020	79.08	Existing
B-5	27-Aug-97	BAI	4	10	4 to 9	9	2	0.020	78.19	Existing
B-6	26-Aug-97	BAI	4	10	4 to 9	9	2	0.020	78.96	Existing
B-7	07-Sep-00	BAI	6	10.5	4 to 9	9	4	0.040	78.40	Existing
B-8	07-Sep-00	BAI	6	10.5	4 to 9	9	4	0.040	78.85	Existing
SP-1	07-Sep-00	BAI	6	35	32 to 35	35	1	0.010	79.66	Existing

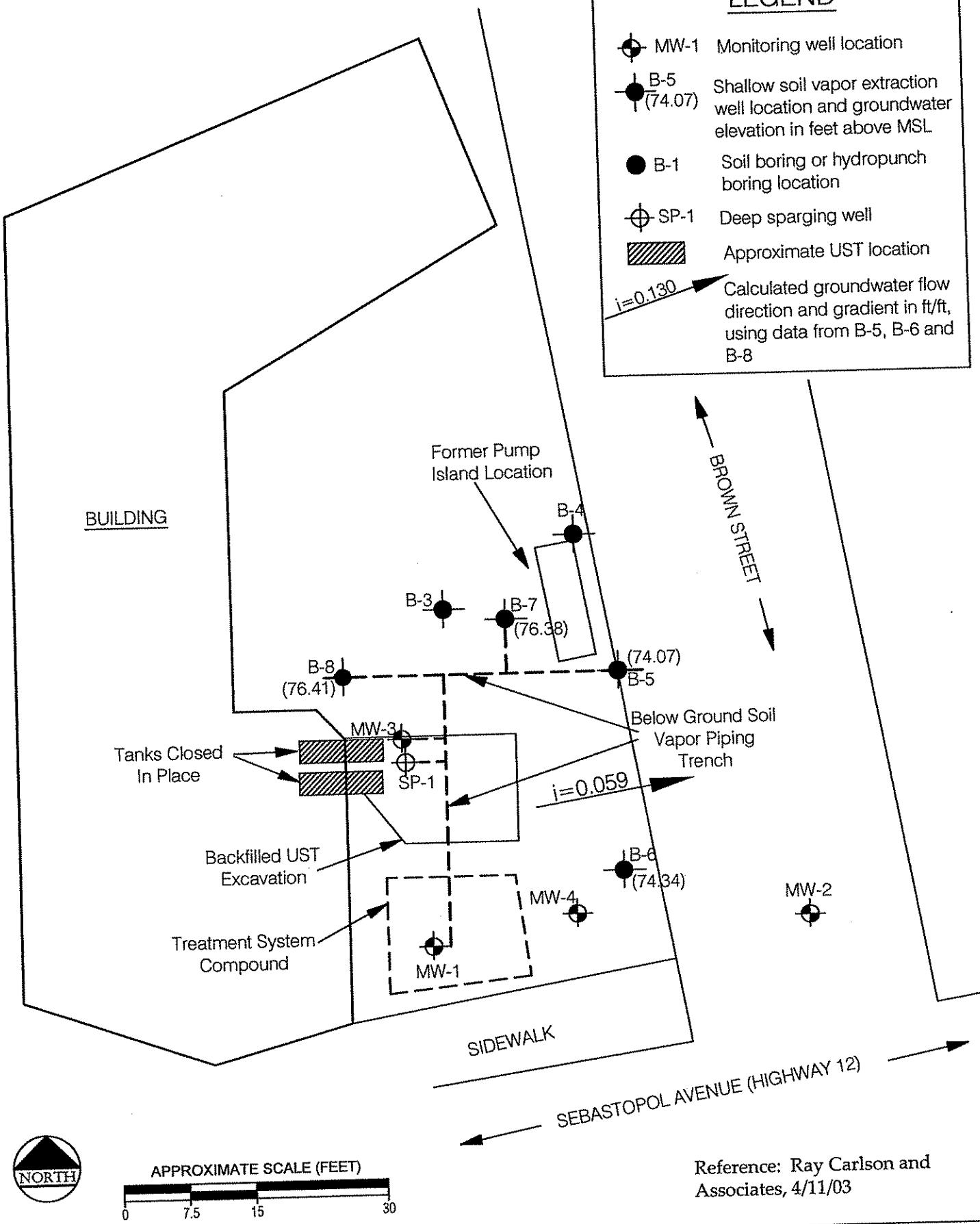
* Survey performed by Phelps and Associates on November 8, 2000 and April 9, 2003.

NS = Not surveyed

PLATES







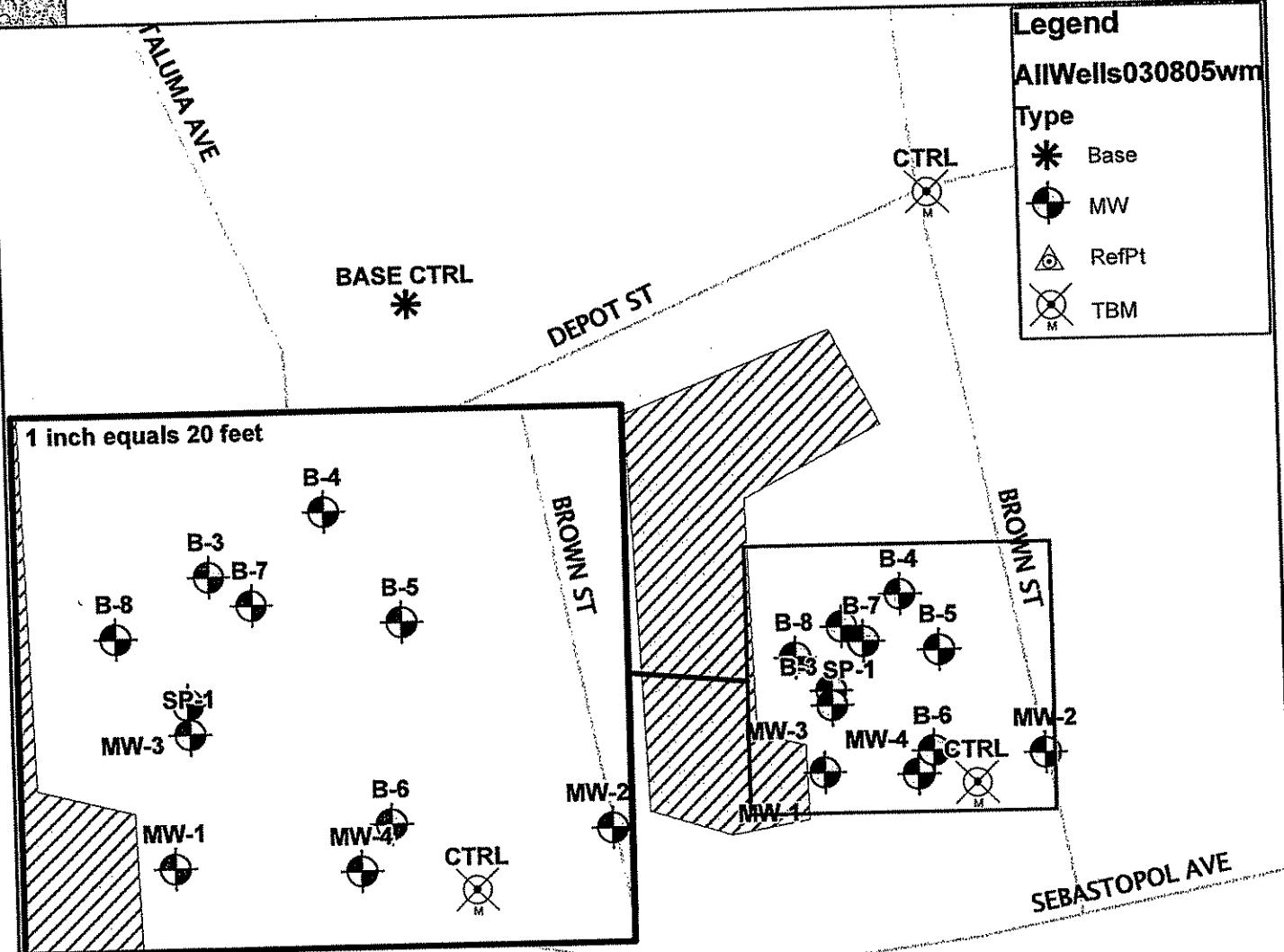
	Brusing Associates, Inc. 5468 Skylane Blvd., Suite 201 Santa Ros, California 95403 Tel: (707) 838-3027	Job No.: 383.044 Appr.: <i>[Signature]</i> Date: 8/22/05	GROUNDWATER ELEVATION MAP MAY 10, 2005 100 Brown Street Sebastopol, California	PLATE 3
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APPENDIX A
Surveyor's Report



Reference Map

100 Brown St - Sebastopol, CA



Ray Carlson & Associates
Land Surveying

411 Russell Ave
Santa Rosa, CA 95403

<http://www.rcmaps.com>
E-Mail: rcs@rcmaps.com

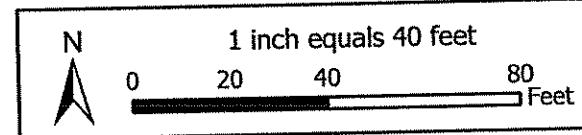
Phone (707)528-7649
Fax (707)571-5541

Copyright 2005, Ray Carlson & Associates Inc.

Note: Location of wells are determined using a 5800 Trimble GPS unit. Horizontal locations based on OPUS Solution using Three NGS stations (PID DE6354, AH9962 & DF7465) and are NAD83. Elevations relative to NGS PID JT0836 (elev. 80.79 NAVD88) as determined by a level loop. XYZ locations performed In compliance with AB2886 under LS#3890. Other features shown were derived from Sonoma County Orthophotography (Spring 2000).

Questions as to orthophotography accuracy, appropriate use, or availability should be directed to the Sonoma County GIS Request line at (707) 565-3891 or via e-mail at gis@sonoma-county.org

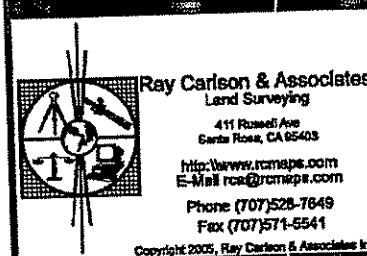
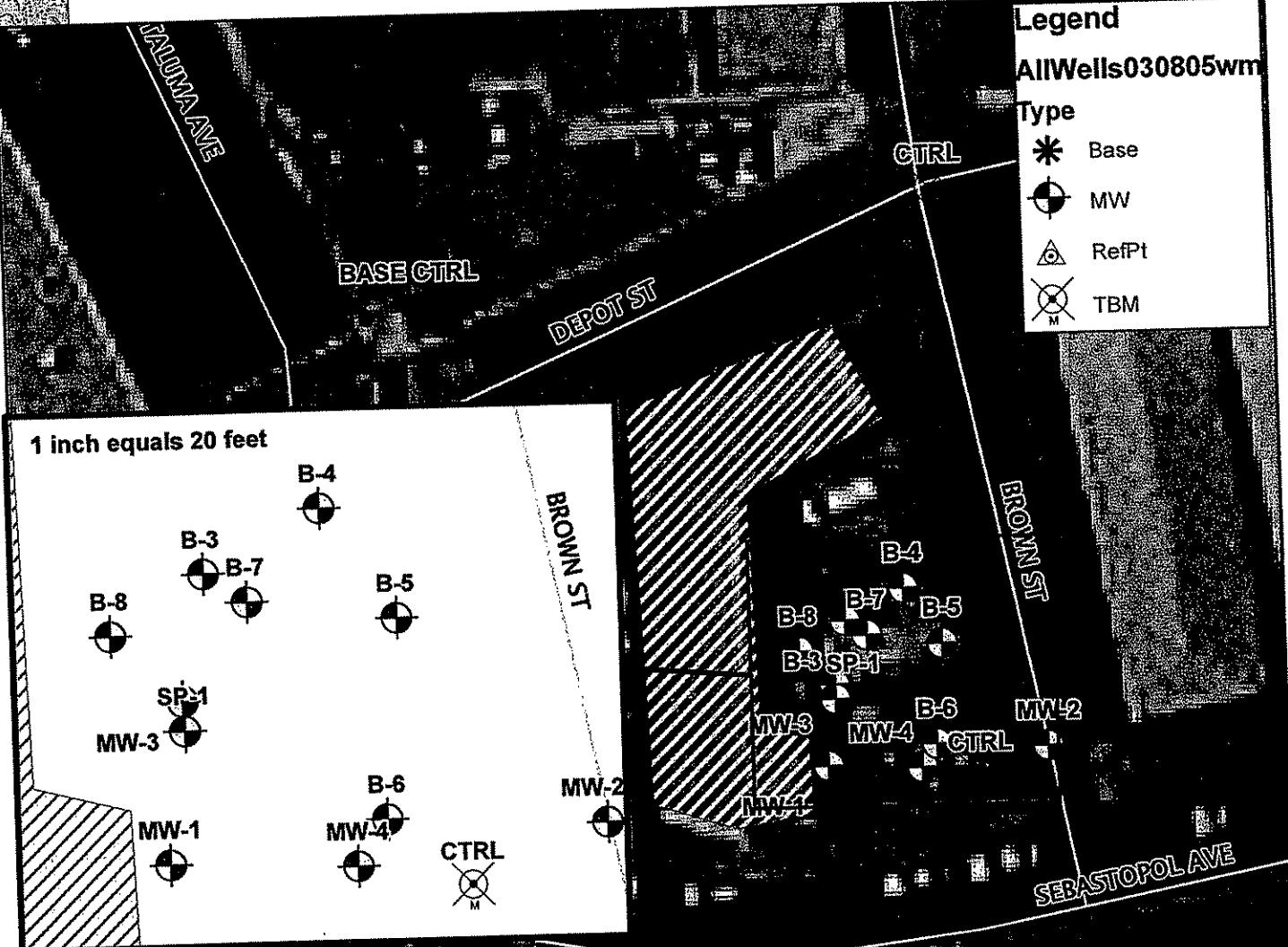
A-CalTransPT



Desc	Latitude	Longitude	Elev_88 (JT0836)	GPS_Date	Point
MW-1	38.402418	-122.822423	79.78	06/04/2002	5000
MW-2	38.4024298	-122.8222464	78.57	03/08/2005	3010
MW-3	38.4024705	-122.8224162	78.45	03/08/2005	3006
MW-4	38.4024169	-122.8223472	79.18	03/08/2005	3009
SP-1	38.4024611	-122.8224156	79.66	03/08/2005	3007
B-3	38.4025108	-122.8224071	79.33	03/08/2005	3004
B-4	38.4025311	-122.8223602	79.08	03/08/2005	3002
B-5	38.4024958	-122.8223298	78.19	03/08/2005	3001
B-6	38.4024318	-122.8223350	78.96	03/08/2005	3008
B-7	38.4025017	-122.8223900	78.40	03/08/2005	3003
B-8	38.4024915	-122.8224448	78.85	03/08/2005	3005
BASE CTRL	38.4027193	-122.8227516	79.43	03/08/2005	3000
CTRL	38.4027849	-122.8223325	77.94	03/08/2005	3011
CTRL	38.4024101	-122.8223012	78.99	03/08/2005	3012
A-CalTransPT	38.4021840	-122.8227036	81.32	03/08/2005	3013

Photo Reference Map

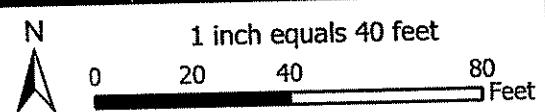
100 Brown St - Sebastopol, CA



Note: Location of wells are determined using a 5800 Trimble GPS unit. Horizontal locations based on OPUS Solution using Three NGS stations (PID DE6354, AH9962 & DF7465) and are NAD83. Elevations relative to NGS PID JT0836 (elev. 80.79 NAVD88) as determined by a level loop. XYZ locations performed in compliance with AB2886 under LS#3890. Other features shown were derived from Sonoma County Orthophotography (Spring 2000).

Questions as to orthophotography accuracy, appropriate use, or availability should be directed to the Sonoma County GIS Request line at (707) 565-3891 or via e-mail at gis@sonoma-county.org

A-CalTransPT



Desc	Latitude	Longitude	Elev_88 (JT0836)	GPS Date	Point
MW-1	38.402418	-122.822423	79.78	05/04/2002	5000
MW-2	38.4024298	-122.8222464	78.57	03/08/2005	3010
MW-3	38.4024705	-122.8224162	78.45	03/08/2005	3006
MW-4	38.4024169	-122.8223472	79.18	03/08/2005	3009
SP-1	38.4024611	-122.8224156	79.66	03/08/2005	3007
B-3	38.4025108	-122.8224071	79.33	03/08/2005	3004
B-4	38.4025311	-122.8223602	79.08	03/08/2005	3002
B-5	38.4024958	-122.8223298	78.19	03/08/2005	3001
B-6	38.4024318	-122.8223350	78.96	03/08/2005	3008
B-7	38.4025017	-122.8223900	78.40	03/08/2005	3003
B-8	38.4024915	-122.8224448	78.85	03/08/2005	3005
BASE CTRL	38.4027193	-122.8227516	79.43	03/08/2005	3000
CTRL	38.4027849	-122.8223325	77.94	03/08/2005	3011
CTRL	38.4024101	-122.8223012	78.99	03/08/2005	3012
A-CalTransPT	38.4021840	-122.8227036	81.32	03/08/2005	3013

APPENDIX B
Monitoring Well Sampling Protocol
and Field Reports



Monitoring Well Sampling Protocol

Monitoring Wells

Prior to purging a monitoring well, groundwater levels are measured with a Solinst electric depth measurement device, or an interface probe, in all wells that are to be measured. At sites where petroleum hydrocarbons are possible contaminants, the well is checked for floating product using a clear bailer, a steel tape with water/oil paste, or an interface probe, during the initial sampling round. If floating product is measured during the initial sampling round or noted during subsequent sampling rounds, floating product measurements are continued.

After the water level and floating product measurements are complete, the monitoring well is purged until a minimum of three casing volumes of water are removed, water is relatively clear of sediment, and pH, conductivity, and temperature measurements of the water become relatively stable. If the well is purged dry, groundwater samples are collected after the water level in the well recovers to at least 80 percent of the original water column measured in the well prior to sampling, or following a maximum recovery period of two hours. The well is purged using a factory-sealed, disposable, polyethylene bailer, a four-inch diameter submersible Grundfos pump, a two-inch diameter ES-40 purge pump, or a peristaltic pump. The purge water is stored on-site in clean, 55-gallon drums.

A groundwater sample is collected from each monitoring well following re-equilibration of the well after purging. The groundwater sample is collected using a factory-sealed disposable, polyethylene bailer with a sampling port, or a factory-sealed Teflon bailer. A factory provided attachment designed for use with volatile organic compounds (VOCs) is attached to the polyethylene bailer sampling port when collecting samples to be analyzed for VOCs. The groundwater sample is transferred from the bailer into sample container(s) that are obtained directly from the analytical laboratory.

The sample container(s) is labeled with a self-adhesive tag. The following information is included on the tag:

- Project number
- Sample number
- Date and time sample is collected
- Initials of sample collector(s).

Individual log sheets are maintained throughout the sampling operations. The following information is recorded:



- Sample number
- Date and time well sampled and purged
- Sampling location
- Types of sampling equipment used
- Name of sampler(s)
- Volume of water purged.

Following collection of the groundwater sample, the sample is immediately stored on blue ice in an appropriate container. A chain-of-custody form is completed with the following information:

- Date the sample was collected
- Sample number and the number of containers
- Analyses required
- Remarks including preservatives added and any special conditions.

The original copy of the chain-of-custody form accompanies the sample containers to a California-certified laboratory. A copy is retained by BAI and placed in company files.

Sampling equipment including thermometers, pH electrodes, and conductivity probes are cleaned both before and after their use at the site. The following cleaning procedures are used:

- Scrub with a potable water and detergent solution or other solutions deemed appropriate using a hard bristle brush
- Rinse with potable water
- Double-rinse with organic-free or deionized water
- Package and seal equipment in plastic bags or other appropriate containers to prevent contact with solvents, dust, or other contaminants.

In addition, the pumps are cleaned by pumping a potable water and detergent solution and deionized water through the system. Cleaning solutions are contained on-site in clean 55-gallon drums.

Domestic and Irrigation Wells

Groundwater samples collected from domestic or irrigation wells are collected from the spigot that is the closest to the well. Prior to collecting the sample, the spigot is allowed to flow for at least 5 minutes to purge the well. The sample is then collected directly into laboratory-supplied containers, sealed, labeled, and stored on blue ice in an appropriate container, as described above. A chain-of-custody form is completed and submitted with the samples to the analytical laboratory.



UST Yes
 Fund Site: No

FIELD REPORT

PAGE 1 OF 7

JOB NO: 383 PROJECT: Wyatt Tire - 100 Brown St. Sebastopol, CA
 INITIAL: GDS SUBJECT: GROUNDWATER SAMPLING
 DATE: 5-10-05 PROJECT PHASE NUMBER: 04
 VEHICLE USED: FORD F-150

Total Time: 8.50
 End. Mileage: 567
 Beg. Mileage: 549

TOTAL MILEAGE: 23

TIME	DESCRIPTION OF WORK AND CONVERSATION RECORD:
0613	LOAD EQUIPMENT AND SUPPLIES
0701	TO SITE
0728	ARRIVE AT SITE. SET UP FOR GROUNDWATER SAMPLING. MEASURED TWO ROUNDS OF DISTANCE TO WATER AT WELLS MW-4, B-5, B-6, B-7 AND B-8. WELLS MW-1, MW-2, MW-3 AND B-4 WERE DRY. WELLS SP-1 AND B-3 WERE NOT ACCESSIBLE AS CONSTRUCTION DEBRIS WAS STOCKPILED ABOVE MONUMENTS. PERFORMED SAMPLING AT WELLS MW-4, B-5, B-6, B-7 AND B-8 STORED PURGEWATER IN DRUM LOCATED AT THE NORTH LIMITS OF THE SYSTEM ENCLOSURE.
	CLOSED WELLS AND MONUMENTS.
	DECON SAMPLING EQUIPMENT
	LOAD EQUIPMENT AND SUPPLIES.
	COMPLETED FIELD NOTES AND LOGGED SAMPLES ON CHAIN OF CUSTODY.
1329	LEAVE SITE.
1354	ARRIVE AT OFFICE. SUBMITTED SAMPLES FOR ANALYSIS. UNLOAD EQUIPMENT AND SUPPLIES.
1444	FINISHED WITH WORK.
	DRUM COUNT: Water = <u>4</u> Devlpmnt Water = Soil = Decon Water =



WATER LEVELS

SHEET 2 OF 7

PROJECT: 100 Brown Street, Sebastopol, California

PROJECT NUMBER: 383

INSTRUMENT TYPE: ET (w/p)

INITIALS: COS

DATE: 5-10.05

WELL SAMPLING

SHEET 3 OF 7

PROJECT: Wyatt Tire

PROJECT NUMBER: 383.024

WELL # MW-4 PRECIP. IN LAST 5 DAYS: ✓ WIND ✓

DATE: 5-10-05

STARTING TIME: 1103 FINISHING TIME: 1139

INITIALS: LGS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: 38.00 - D.T.W. 30.31 = H₂O COLUMN: 7.69 X 0.5 = 3.85 GALLONS

4" WELL DEPTH: [] - D.T.W. [] = H₂O COLUMN: [] X 2.0 = [] GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS

4

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1111	1	7.25	821	19.9	Cloudy Brown, No odor, Sandy
1114	2.5	7.06	844	19.6	Cloudy Brown, No odor, Sandy
1118	4	7.00	846	19.5	Cloudy Brown, No odor, Sandy

SAMPLING: SAMPLE ANALYSIS: TPH-G [] EPA-8260 []

SAMPLE TIME: 1121 DID WELL GO DRY? NO

WATER LEVELS:		NOTES:
TIME	D.T.W.	
1123	30.32	

WELL SAMPLING

SHEET 4 OF 7

PROJECT: Wyatt Tire - 100 Brown Street, Sebastopol, CA

PROJECT NUMBER: 383

WELL # B-5 PRECIP. IN LAST 5 DAYS: ✓ WIND ✓

DATE: 5-10-09

STARTING TIME: 0951 FINISHING TIME: 1025

INITIALS: GDS

CALCULATION OF PURGE VOLUME2" WELL DEPTH: 8.00 - D.T.W. 4.2 = H₂O COLUMN: 3.88 X 0.5 = 1.94

GALLONS

4" WELL DEPTH: - D.T.W. = H₂O COLUMN: X 2.0 =

THEREFORE TOTAL PURGE GALLONS EQUALS

2FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1000	0.50	6.50	381	18.8	Cloudy Grey-Brown, organic odor,
					SEDIMENT
1003	1	6.50	347	18.5	Turbid Green-Brown organic odor,
					SANDY
1005	2	6.59	348	18.4	Turbid Green-Brown, organic odor,
					SANDY

SAMPLING:

SAMPLE ANALYSIS: TPH-Gas, 8260B (BTEX, petro oxy & Pb scav)

SAMPLE TIME:

1011

DID WELL GO DRY?

No

WATER LEVELS:

NOTES:

TIME	D.T.W.	NOTES
1016	7.23	SLOW RECOVERY

WELL SAMPLING

SHEET 5 OF 7

PROJECT: Wyatt Tire - 100 Brown Street, Sebastopol, CA

PROJECT NUMBER: 383

WELL # B-6 PRECIP. IN LAST 5 DAYS: ✓ WIND ✓ DATE: 5-10-05

STARTING TIME: 1026 FINISHING TIME: 1102 INITIALS: CPS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: 9.00 - D.T.W. 4.62 = H₂O COLUMN: 4.38 X 0.5 = 2.19

GALLONS

4" WELL DEPTH: - D.T.W. = H₂O COLUMN: X 2.0 =

THEREFORE TOTAL PURGE GALLONS EQUALS 2

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
1037	0.50	6.75	602	19.0	CLOUDY GREY-BROWN, ORGANIC ODOR, SEDIMENT, SANDY
1039	1	6.79	599	19.5	CLOUDY GREY-BROWN, ORGANIC ODOR, SANDY
1042	2	6.85	600	19.2	CLOUDY GREY BROWN, ORGANIC ODOR, SANDY

SAMPLING:

SAMPLE ANALYSIS: TPH-Gas, 8260B (BTEX, petro oxy & Pb scav)

SAMPLE TIME: 1052

DID WELL GO DRY?

NO

WATER LEVELS:

NOTES:

TIME D.T.W.

1056 8.04

WELL SAMPLING

SHEET 6 OF 7

PROJECT: Wyatt Tire - 100 Brown Street, Sebastopol, CA

PROJECT NUMBER: 383

WELL # B-7 PRECIP. IN LAST 5 DAYS: ✓ WIND ✓

DATE: 5-10-05

STARTING TIME: 0848 FINISHING TIME: 12:11

INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [] - D.T.W. [] = H₂O COLUMN: [] X 0.5 = [] GALLONS

4" WELL DEPTH: [8.00] - D.T.W. [2.03] = H₂O COLUMN: [5.97] X 2.0 = [11.94] GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS [12]

G
A
L
L
O
N
S

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0917	1	7.23	463	17.6	Cloudy Brown, No odor, Sandy
0920	3	7.46	374	17.9	Cloudy Brown, No odor, Sandy
0924	6	7.48	434	18.0	Turbid Brown, No odor, Sandy
0930	9	7.41	496	17.5	Turbid Brown, No odor, Sandy

SAMPLING: SAMPLE ANALYSIS: TPH-Gas, 8260B (BTEX, petro oxy & Pb scav) []

SAMPLE TIME: 1204 DID WELL GO DRY? YES

WATER LEVELS:		NOTES:
TIME	D.T.W.	
0931	7.70	
1031	6.51	
1131	6.39	
1208	6.45	

WELL SAMPLING

SHEET 7 OF 7

PROJECT: Wyatt Tire - 100 Brown Street, Sebastopol, CA

PROJECT NUMBER: 383

WELL # B-8 PRECIP. IN LAST 5 DAYS: ✓ WIND ✓ DATE: 5-10-85

STARTING TIME: 0932 FINISHING TIME: 1234 INITIALS: CDS

CALCULATION OF PURGE VOLUME

2" WELL DEPTH: [] - D.T.W. [] = H₂O COLUMN: [] X 0.5 = [] GALLONS

4" WELL DEPTH: [8.00] - D.T.W. [2.44] = H₂O COLUMN: [5.56] X 2.0 = [11.12] GALLONS

THEREFORE TOTAL PURGE GALLONS EQUALS [11]

FIELD MEASUREMENTS

TIME	GALLONS REMOVED	pH	CONDUCTIVITY	TEMP.	OBSERVATIONS
0943	1	7.34	903	16.8	TURBID BROWN, NO ODOR, SANDY
0946	2	7.28	906	16.8	TURBID BROWN, NO ODOR, SANDY
0949	3	7.27	883	16.6	TURBID BROWN, NO ODOR, SANDY

SAMPLING: SAMPLE ANALYSIS: TPH-Gas, 8260B (BTEX, petro oxy & Pb scav) []

SAMPLE TIME: 1223 DID WELL GO DRY? YES

WATER LEVELS:		NOTES:
TIME	D.T.W.	
0950	7.67	
1050	3.52	
1150	2.89	
1226	3.21	

APPENDIX C
Laboratory Report



Laboratory Report Project Overview

EDF 1.2a

Laboratory: Bace Analytical, Windsor, CA
Lab Report Number: 4559
Project Name: 100 BROWN ST.
Work Order Number: 383
Control Sheet Number: NA

Laboratory: Bace Analytical, Windsor, CA
Lab Report Number: 4559
Project Name: 100 BROWN ST.
Work Order Number: 383
Control Sheet Number: NA

FILE COPY

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anicode	Exmcode	Logdate	Exdate	Anadate	Lablotcl	Run Sub
4559	B-5	4559-2	W	CS	8260FAB	SW5030B	05/10/200	05/12/200	20050512	18	
4559	B-5	4559-2	W	CS	8260TPH	SW5030B	5	5	5	5	
4559	B-6	4559-3	W	CS	8260FAB	SW5030B	05/10/200	05/12/200	20050512	18	
4559	B-6	4559-3	W	CS	8260TPH	SW5030B	5	5	5	5	
4559	B-7	4559-4	W	CS	8260FAB	SW5030B	05/10/200	05/12/200	20050512	19	
4559	B-7	4559-4	W	CS	8260TPH	SW5030B	5	5	5	5	
4559	B-8	4559-5	W	CS	8260FAB	SW5030B	05/10/200	05/12/200	20050512	20	
4559	B-8	4559-5	W	CS	8260TPH	SW5030B	5	5	5	5	
4559	MW-4	4559-1	W	CS	8260FAB	SW5030B	05/10/200	05/12/200	20050512	21	
4559	MW-4	4559-1	W	CS	8260TPH	SW5030B	5	5	5	5	
4559	4561-4	W	NC	8260FAB	SW5030B	//	05/10/200	05/12/200	20050512	17	
4559	4561-4	W	NC	8260TPH	SW5030B	//	05/10/200	05/12/200	20050512	17	
4559MB	W	LB1	8260FAB	SW5030B	//	05/12/200	05/12/200	20050512	15		
4559MB	W	LB1	8260TPH	SW5030B	//	5	5	5	5		
4559MS	W	MS1	8260FAB	SW5030B	//	05/12/200	05/12/200	20050512	10		
4559MS	W	MS1	8260TPH	SW5030B	//	5	5	5	5		
4559SD	W	SD1	8260FAB	SW5030B	//	05/12/200	05/12/200	20050512	27		
4559SD	W	SD1	8260TPH	SW5030B	//	5	5	5	5		

Project Name:	100 BROWN ST.	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX			
Project No:	383	Method:	8260FAB			
		Prep Meth:	SW5030B			
Field ID:	B-5	Lab Samp ID:	4559-2			
Descr/Location:	B-5	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1011	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Methyl-tert-butyl ether (MTBE)	38.	100.	PQL	12600.	UG/L	100
Ethyl tert-butyl ether (ETBE)	30.	100.	PQL	ND	UG/L	100
tert-Amyl methyl ether (TAME)	26.	100.	PQL	ND	UG/L	100
Di-isopropyl ether (DIPE)	37.	100.	PQL	ND	UG/L	100
tert-Butyl alcohol (TBA)	240.	1000.	PQL	ND	UG/L	100
1,2-Dichloroethane	30.	50.	PQL	98.4	UG/L	100
1,2-Dibromoethane	30.	50.	PQL	ND	UG/L	100
Benzene	27.	50.	PQL	1070.	UG/L	100
Toluene	25.	50.	PQL	1550.	UG/L	100
Ethylbenzene	25.	50.	PQL	703.	UG/L	100
Xylenes	25.	50.	PQL	3340.	UG/L	100
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		86-118	SLSA	108%		1
Toluene-d8		88-110	SLSA	107%		1
Dibromofluoromethane		86-115	SLSA	108%		1

Approved by:

*Wesley A. Peltz*Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX				
Project No:	383	Method:	8260FAB				
		Prep Meth:	SW5030B				
Field ID:	B-6	Lab Samp ID:	4559-3				
Descr/Location:	B-6	Rec'd Date:	05/10/2005				
Sample Date:	05/10/2005	Prep Date:	05/12/2005				
Sample Time:	1052	Analysis Date:	05/12/2005				
Matrix:	Water	QC Batch:	20050512				
Basis:	Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil	
Methyl-tert-butyl ether (MTBE)	95.	250.	PQL	DX	ND	UG/L	250
Ethyl tert-butyl ether (ETBE)	75.	250.	PQL		ND	UG/L	250
tert-Amyl methyl ether (TAME)	65.	250.	PQL		ND	UG/L	250
Di-isopropyl ether (DIPE)	93.	250.	PQL		ND	UG/L	250
tert-Butyl alcohol (TBA)	600.	3000.	PQL		ND	UG/L	250
1,2-Dichloroethane	75.	130.	PQL		ND	UG/L	250
1,2-Dibromoethane	75.	130.	PQL		ND	UG/L	250
Benzene	68.	130.	PQL		312	UG/L	250
Toluene	63.	130.	PQL		4775.	UG/L	250
Ethylbenzene	63.	130.	PQL		6400.	UG/L	250
Xylenes	63.	130.	PQL		34400.	UG/L	250
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene		86-118	SLSA		105%		1
Toluene-d8		88-110	SLSA		106%		1
Dibromofluoromethane		86-115	SLSA		108%		1
DX: Value < lowest standard (MQL), but > than MDL							

Approved by:

*Wesley H. Post*Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX			
Project No:	383	Method:	8260FAB			
		Prep Meth:	SW5030B			
Field ID:	B-7	Lab Samp ID:	4559-4			
Descr/Location:	B-7	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1204	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL	70.2	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL	ND	UG/L	1
Benzene	0.27	0.50	PQL	ND	UG/L	1
Toluene	0.25	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL	0.67	UG/L	1
Xylenes	0.25	0.50	PQL	3.34	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	86-118	SLSA		108%		1
Toluene-d8	88-110	SLSA		107%		1
Dibromofluoromethane	86-115	SLSA		106%		1

Approved by:

Date: 5/21/05

Project Name:	100 BROWN ST.	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX			
Project No:	383	Method:	8260FAB			
		Prep Meth:	SW5030B			
Field ID:	B-8	Lab Samp ID:	4559-5			
Descr/Location:	B-8	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1223	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Methyl-tert-butyl ether (MTBE)	95.	250.	PQL	ND	UG/L	250
Ethyl tert-butyl ether (ETBE)	75.	250.	PQL	ND	UG/L	250
tert-Amyl methyl ether (TAME)	65.	250.	PQL	ND	UG/L	250
Di-isopropyl ether (DIPE)	93.	250.	PQL	ND	UG/L	250
tert-Butyl alcohol (TBA)	600.	3000.	PQL	ND	UG/L	250
1,2-Dichloroethane	75.	130.	PQL	ND	UG/L	250
1,2-Dibromoethane	75.	130.	PQL	ND	UG/L	250
Benzene	68.	130.	PQL	176.	UG/L	250
Toluene	63.	130.	PQL	2160.	UG/L	250
Ethylbenzene	63.	130.	PQL	782	UG/L	250
Xylenes	63.	130.	PQL	4030.	UG/L	250
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene		86-118	SLSA	106%		1
Toluene-d8		88-110	SLSA	106%		1
Dibromofluoromethane		86-115	SLSA	110%		1

Approved by:

*Wesley G. Petty*Date: 5/21/05

Project Name:	100 BROWN ST.	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX			
Project No:	383	Method:	8260FAB			
		Prep Meth:	SW5030B			
Field ID:	MW-4	Lab Samp ID:	4559-1			
Descr/Location:	MW-4	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1121	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL	ND	UG/L	1
Benzene	0.27	0.50	PQL	ND	UG/L	1
Toluene	0.25	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL	1.10	UG/L	1
Xylenes	0.25	0.50	PQL	6.07	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	86-118	SLSA		107%		1
Toluene-d8	88-110	SLSA		107%		1
Dibromofluoromethane	86-115	SLSA		108%		1

Approved by:

Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name: 100 BROWN ST.		Analysis: Total Petroleum Hydrocarbons (TPH) by GC/MS					
Project No: 383		Method: 8260TPH					
		Prep Meth: SW5030B					
Field ID:	B-5	Lab Samp ID: 4559-2					
Descr/Location:	B-5	Rec'd Date: 05/10/2005					
Sample Date:	05/10/2005	Prep Date: 05/12/2005					
Sample Time:	1011	Analysis Date: 05/12/2005					
Matrix:	Water	QC Batch: 20050512					
Basis:	Not Filtered	Notes:					
Analyte		Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)		4.0	5.0	PQL	32	MG/L	100
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene 86-115 SLSA 108% 1							

Approved by:

*Wesley H. Petty*Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	383	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	B-6	Lab Samp ID:	4559-3			
Descr/Location:	B-6	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1052	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	10.	13.	PQL	120.	MG/L	250
SURROGATE AND INTERNAL STANDARD RECOVERIES:				105%		1
4-Bromofluorobenzene		86-115	SLSA			

Approved by:

*Wesley S. Pott*Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	383	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	B-7	Lab Samp ID:	4559-4			
Descr/Location:	B-7	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1204	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.04	0.05	PQL	0.23	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:				107%		1
4-Bromofluorobenzene				86-115	SLSA	

Approved by:

*Wesley H. Petty*Date: 5/21/05

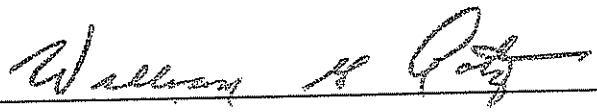
Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	383	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	B-8	Lab Samp ID:	4559-5			
Descr/Location:	B-8	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1223	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	10.	13.	PQL	13.	MG/L	250
SURROGATE AND INTERNAL STANDARD RECOVERIES:						1
4-Bromofluorobenzene	86-115	SLSA	106%			

Approved by:



Date: 5/21/05

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Project Name:	100 BROWN ST.	Analysis:	Total Petroleum Hydrocarbons (TPH) by GC/MS			
Project No:	383	Method:	8260TPH			
		Prep Meth:	SW5030B			
Field ID:	MW-4	Lab Samp ID:	4559-1			
Descr/Location:	MW-4	Rec'd Date:	05/10/2005			
Sample Date:	05/10/2005	Prep Date:	05/12/2005			
Sample Time:	1121	Analysis Date:	05/12/2005			
Matrix:	Water	QC Batch:	20050512			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Gasoline Range Organics (C5-C12)	0.04	0.05	PQL	0.085	MG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	86-115	SLSA		107%		1

Approved by:

Date: 5/21/05

QA/QC Report
Method Blank Summary

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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QC Batch:	20050512	Analysis:	VOCs by GC/MS Fuel Additives Plus BTEX			
Matrix:	Water	Method:	8260FAB			
Lab Samp ID:	4559MB	Prep Meth:	SW5030B			
Analysis Date:	05/12/2005	Prep Date:	05/12/2005			
Basis:	Not Filtered	Notes:				
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil
Methyl-tert-butyl ether (MTBE)	0.38	1.0	PQL	ND	UG/L	1
Ethyl tert-butyl ether (ETBE)	0.30	1.0	PQL	ND	UG/L	1
tert-Amyl methyl ether (TAME)	0.26	1.0	PQL	ND	UG/L	1
Di-isopropyl ether (DIPE)	0.37	1.0	PQL	ND	UG/L	1
tert-Butyl alcohol (TBA)	2.4	10.	PQL	ND	UG/L	1
1,2-Dichloroethane	0.30	0.50	PQL	ND	UG/L	1
1,2-Dibromoethane	0.30	0.50	PQL	ND	UG/L	1
Benzene	0.27	0.50	PQL	ND	UG/L	1
Toluene	0.25	0.50	PQL	ND	UG/L	1
Ethylbenzene	0.25	0.50	PQL	ND	UG/L	1
Xylenes	0.25	0.50	PQL	ND	UG/L	1
SURROGATE AND INTERNAL STANDARD RECOVERIES:						
4-Bromofluorobenzene	86-118	SLSA		108%		1
Toluene-d8	88-110	SLSA		109%		1
Dibromofluoromethane	86-115	SLSA		115%		1

**QA/QC Report
Method Blank Summary**

Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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QC Batch:	20050512	Analysis:	Total Petroleum Hydrocarbons (TPH) by				
Matrix:	Water	Method:	8260TPH				
Lab Samp ID:	4559MB	Prep Meth:	SW5030B				
Analysis Date:	05/12/2005	Prep Date:	05/12/2005				
Basis:	Not Filtered	Notes:					
Analyte	Det Limit	Rep Limit	Note	Result	Units	Pvc Dil	
Gasoline Range Organics (C5-C12)	0.04	0.05	PQL	ND	MG/L	1	
SURROGATE AND INTERNAL STANDARD RECOVERIES:							
4-Bromofluorobenzene	86-115	SLSA		108%			1

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary
Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

QC Batch: 20050512
Matrix: Water
Lab Samp ID: 4559MS
Basis: Not Filtered

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Project Name: Lab Generated or Non COE Sample
Project No.: Lab Generated or Non COE Sample
Field ID: Lab Generated or Non COE Sample
Lab Ref ID: 4561-4

Analyte	Analysis Method	Spike Level DMS	Sample Result	MS	Spike Result DMS	Units	% Recoveries		Acceptance Criteria	RPD			
							MS	DMS	RPD				
1,2-Dibromoethane	8260FAB	10.0	10.0	ND	8.03	8.63	UG/L	80.3	86.3	7.2	130-70	MSA	20MSP
1,2-Dichloroethane	8260FAB	10.0	10.0	ND	8.97	8.94	UG/L	89.7	89.4	0.34	130-70	MSA	20MSP
Benzene	8260FAB	10.0	10.0	ND	9.96	9.29	UG/L	99.6	92.9	7.0	127-76	MSA	20MSP
Di-isopropyl ether (DIPE)	8260FAB	10.0	10.0	ND	8.40	8.51	UG/L	84.0	85.1	1.3	130-70	MSA	20MSP
Ethyl tert-butyl ether (ETBE)	8260FAB	10.0	10.0	ND	8.27	8.57	UG/L	82.7	85.7	3.6	130-70	MSA	20MSP
Ethylbenzene	8260FAB	10.0	10.0	ND	9.47	9.28	UG/L	94.7	92.8	2.0	130-70	MSA	20MSP
Methyl-tert-butyl ether (MTBE)	8260FAB	10.0	10.0	ND	8.16	8.69	UG/L	81.6	86.9	6.3	130-70	MSA	20MSP
Toluene	8260FAB	10.0	10.0	ND	9.83	9.31	UG/L	98.3	93.1	5.4	125-76	MSA	20MSP
Xylenes	8260FAB	30.0	30.0	ND	27.5	26.2	UG/L	91.7	87.3	4.9	130-70	MSA	20MSP
tert-Amyl methyl ether (TAME)	8260FAB	10.0	10.0	ND	7.89	8.22	UG/L	78.9	82.2	4.1	130-70	MSA	20MSP
tert-Butyl alcohol (TBA)	8260FAB	50.0	50.0	ND	33.4	36.2	UG/L	66.8	72.4	8.0	140-60	MSA	25MSP
4-Bromofluorobenzene	8260FAB	100.	100.	109.	106.	106.	PERCENT	106	106	0.00	118-86	SLSA	20SLSP
Dibromofluoromethane	8260FAB	100.	100.	108.	107.	107.	PERCENT	107	107	0.00	115-86	SLSA	20SLSP
Toluene-d8	8260FAB	100.	100.	108.	109.	108.	PERCENT	109	108	0.92	110-88	SLSA	20SLSP

QA/QC Report
Matrix Spike/Duplicate Matrix Spike Summary
Bace Analytical, Windsor, CA

Lab Report No.: 4559 Date: 05/20/2005

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Analyte	Analysis Method	Spike Level		Sample Result	Spike Result DMS	Units	% Recoveries MS DMS RPD	Acceptance Criteria	
		MS	DMS					MS	9.1 130-70 MSA 20MSP
Gasoline Range Organics (C5-C12)	8260TPH	0.50	0.50	ND	0.42	0.46	84.0	92.0	9.1 130-70 MSA 20MSP
4-Bromofluorobenzene	8260TPH	100.	100.	108.	106.	107.	106	107	0.94 115-86 SLSA 20SLSP

Project Name: Lab Generated or Non COE Sample
Project No.: Lab Generated or Non COE Sample
Field ID: Lab Generated or Non COE Sample
Lab Ref ID: 4561-6

Chain-of-Custody Form